

**Climatological Data for September, 1910.  
DISTRICT No. 12, COLUMBIA VALLEY.**

EDWARD A. BEALS, District Editor.

**GENERAL SUMMARY.**

Although the precipitation for September, 1910, averaged 0.42 inch below normal, the preceding droughty condition was partially relieved by moderate rains in nearly every locality of District No. 12. The rainfall was not heavy enough to seriously interfere with harvest work, but in most places it was sufficient to soften the ground for fall plowing, which made good progress. All forest fires were extinguished by the middle of the month and the weather was favorable for every branch of industry, except transportation on the rivers, which was seriously hampered by unusually low water.

**TEMPERATURES.**

The mean temperature, as determined from the records of 229 stations, was  $57.3^{\circ}$ , which is  $0.5^{\circ}$  below the district average. The mean temperatures ranged between  $68.0^{\circ}$  at Zindel, in extreme southeastern Washington, and  $46.1^{\circ}$  at Ovando, in west-central Montana. The warmest sections were in the lowlands of the interior, particularly the immediate valleys of the Columbia and the Snake rivers, where mean temperatures of  $60^{\circ}$  to  $65^{\circ}$  occurred. The coolest sections were the elevated portions in the interior, mean temperatures of  $46^{\circ}$  to  $50^{\circ}$  occurring at some stations in western Montana and in central Idaho, above the 3,500-foot level.

The highest temperatures occurred generally during the 2d decade, and the lowest were usually recorded from the 24th to the 26th, at which time frost formed over eastern sections, but no damage to unharvested fruit or staple vegetation was reported. The highest recorded temperature was  $98^{\circ}$  at Glenns Ferry, Idaho, elevation 2,569 feet, on the 19th, and at Zindel, Wash., elevation 715 feet, on the 14th. The lowest temperature was  $12^{\circ}$  at Chesterfield, Idaho, elevation 5,424 feet, on the 26th.

**PRECIPITATION.**

The average precipitation, as determined from the records of 340 stations, was 1.16 inch, which is 0.42 inch below the normal for the district. The heaviest rainfall occurred along the Washington and northern Oregon coasts, and in western Montana, but the only departures above normal precipitation were in southwestern, south-central, and eastern Washington, and in the western counties of Montana, Idaho, and Wyoming.

Over the northern portion of the district the rainfall was quite well distributed throughout the month, but in Oregon and southern Idaho the greater portion of the precipitation occurred from the 13th to the 21st.

The greatest monthly precipitation was 5.52 inches at Quinault, Wash., in the coast drainage area, and the least was 0.02 inch at Blalock, Oreg., in the Columbia River Valley, and also at Gold Beach, Oreg., in the Rogue River Valley. The greatest 24-hour rainfall was 2.76 inches on the 29th at Quinault, Wash., and the second greatest was 2.10 inches on the 17th at Bay City, Oreg., in the coast drainage area.

**THE RIVERS.**

The Columbia River and its feeders were unusually low during the greater part of the month, and in many cases the mean stages were the lowest ever recorded for September. The mean stages at all stations were uniformly lower than those of the preceding month.

The Columbia River averaged 3.0 feet below the normal for the month, being 1.6 foot below at Vancouver, 3.5 feet below at The Dalles, and 2.8 feet below at Wenatchee. At Cascade Locks, with a record of 14 years, the present September mean stage of 2.3 feet is the lowest mean ever recorded. The low stage of the river enabled the dredges to make rapid progress in

their work of deepening the channel and also aided in the location of sand bars and other obstructions that are most in need of attention.

The Willamette River fell steadily throughout the month with the exception of the last few days, when a slight rise was reported from most of the stations. The mean stage was below normal at all stations, and ranged between 0.2 foot below at Wilsonville and 0.9 foot below at Portland. The unusually low stage of the upper Willamette has seriously interfered with navigation for the last three months.

The Snake River averaged 0.8 foot below the September normal, and was 0.8 foot lower than the mean stage for August; the mean stage at Lewiston, Idaho, being 0.2 foot above the zero of the gage.

**MISCELLANEOUS.**

The prevailing winds were from the west. The highest wind recorded occurred at North Head, Wash., where a velocity of 52 miles per hour from the south occurred on the 29th. The average hourly velocity for the month at that station was 11.6 miles. The percentage of possible sunshine was 64 at Spokane, 42 at Seattle, and 39 at Portland. Hail was recorded at several stations in western Montana on the 16th and 24th. Thunderstorms were unusually numerous in the portion of the district lying east of the Cascade Mountains, occurring principally on the 16th, 17th, 19th, and 20th, some of the storms being very severe. Killing frosts occurred in many places as early as the 7th.

**THE FORT HALL IRRIGATION PROJECT, IDAHO.**

By JOHN J. GRANVILLE, Superintendent of Irrigation, U. S. Indian Service.

The lands to be irrigated under this project lie at an elevation of 4,500 feet in Bingham and Bannock counties between ranges 33 and 35 east, and townships 3 and 6 south, of Boise Meridian. The soil, with the exception of some 14,000 acres of sand lying in the north third of the area to be irrigated, and extending in an easterly and westerly direction entirely through the tract, is a volcanic ash covered with a heavy growth of sage brush, and capable, when supplied with water, of raising excellent crops of all kinds, except the tenderest vegetables and fruits.

The area to be irrigated contains approximately 50,000 acres exclusive of the sand belt, the water for which will be supplied principally by the construction of a dam and the creation of a reservoir on the Blackfoot River, in ranges 41 and 42 east, townships 5 and 6 south, and in part from the Snake River.

The dam site and reservoir area present great natural advantages.

The Blackfoot River, for a distance of about 16 miles, flows through a marsh, some 5 miles in width at its broadest point, before reaching the site at which the dam is being constructed, and has an average fall of about 8 inches per mile. At the site of the dam the river enters a narrow basalt gorge with nearly vertical walls on both sides, those on the south side rising to a height of about 70 feet and on the north to about 40 feet. The width of the canyon at this point is 120 feet at the water line and 250 feet at the crest of the dam, which is 40 feet above the water. The construction of this dam, with the bottom of the spillway 8 feet below the crest, or 32 feet above the water surface, will impound approximately 200,000 acre-feet.

Bed rock was found extending entirely across the canyon at a depth of about 4 feet below the bed of the stream or 6 feet below the water surface.

The dam itself is the loose-rock and hydraulic-filled type, and an ample supply of rock was found for the construction of the

TABLE 2.—Record of weather observations at Medford, Oreg., from March 21, 1910, to May 22, 1910, inclusive.

Date.	Time of observation.	Thermometer.		Dew-point.	State of weather.	Wind direction.	Minimum temperature next a.m.	Remarks.
		Dry.	Wet.					
March 21.....	7:15 p.m.	55	49	43	Cloudy.....	Slight south.....	40	Slight shower during the night.
March 22.....	6:15 p.m.	44	41	38	Raining.....	Slight south.....	36	
March 23.....	6:45 p.m.	42	39	35	Raining.....	Brisk southwest.....	33	
March 23.....	8:00 p.m.	40	37	33	Cloudy.....	Brisk north.....	33	
March 24.....	9:00 a.m.	41	37	32	Cloudy.....	Slight northwest.....		
March 24.....	5:45 p.m.	50	41.5	31	Clear.....	Brisk northwest.....		
March 24.....	10:00 p.m.	39	36	32	Clear.....	Slight northwest.....	27	
March 25.....	5:30 p.m.	54.5	45	34	Partly cloudy.....	Slight northwest.....		
March 25.....	6:50 p.m.	51	44	36	Partly cloudy.....	Slight northwest.....	31	
March 26.....	10:00 a.m.	46	39.5	31	Cloudy.....	Slight north.....		
March 26.....	5:35 p.m.	52	42	29	Cloudy.....	Brisk northeast.....		
March 26.....	6:50 p.m.	49	40.5	28	Cloudy.....	Brisk southeast.....	38	
March 27.....	6:30 p.m.	56	46.5	36	Clear.....	Slight northwest.....		
March 27.....	8:30 p.m.	48	43	37	Clear.....	Slight northwest.....	34	
March 28.....	5:15 p.m.	57	45.5	32	Clear.....	Slight northwest.....		
March 28.....	7:00 p.m.	50	42	32	Clear.....	Slight northwest.....		
March 28.....	8:30 p.m.	46	40	32	Clear.....	Slight northwest.....	27	
March 29.....	7:00 p.m.	56	47.5	39	Clear.....	Brisk southwest.....		
March 29.....	9:00 p.m.	50	43	35	Clear.....	Slight southwest.....	34	
March 30.....	7:00 p.m.	61	53	44	Clear.....	Brisk east.....	38	
March 31.....	5:00 p.m.	67	52.5	38	Clear.....	Slight west.....		
March 31.....	6:30 p.m.	63	53	44	A few clouds.....	Slight southwest.....		
March 31.....	9:00 p.m.	57	49	41	A few clouds.....	Slight southwest.....	36	
April 1.....	6:45 p.m.	52	45	37	Cloudy.....	Brisk northwest.....	38	
April 2.....	1:15 a.m.	59	49	39	Clear.....	High northwest.....		
April 2.....	7:00 p.m.	47	40	31	Cloudy.....	Brisk west.....	28	
April 3.....	10:00 p.m.	41	36.5	30	Clear.....	Light west.....		
April 3.....	6:30 p.m.	55	43	27	Clear.....	Calm.....		
April 3.....	8:00 p.m.	47	40	31	Clear.....	Slight northwest.....		
April 3.....	10:00 p.m.	44	38	30	Clear.....	Slight south.....		
April 3.....	10:30 p.m.	43	38	31	Clear.....	Slight southeast.....	27	
April 4.....	6:30 p.m.	65	53	42	Clear.....	Calm.....		
April 4.....	8:15 p.m.	56	48.5	41	Clear.....	Slight south.....	39	
April 5.....	6:45 p.m.	62	49.5	37	Cloudy.....	Brisk north.....		
April 5.....	11:15 p.m.	52	47	42	Cloudy.....	Light north.....	34	
April 6.....	6:30 p.m.	59	45	27	Hazy.....	Brisk northwest.....		
April 6.....	7:20 p.m.	55	44	31	Hazy.....	Brisk northwest.....		
April 6.....	9:00 p.m.	51	42	31	Clear.....	Slight northeast.....	31	
April 7.....	6:35 p.m.	59	47	33	Partly cloudy.....	Moderate northwest.....		
April 7.....	10:30 p.m.	57.5	45	30	Partly cloudy.....	Moderate northwest.....	31	
April 8.....	6:45 p.m.	59	48	36	Cloudy.....	Moderate northwest.....	32	
April 9.....	6:45 p.m.	59	51	44	Cloudy.....	Slight northeast.....	44	
April 10.....	6:35 p.m.	56	46.5	36	Partly cloudy.....	Strong southeast.....		
April 10.....	9:45 p.m.	54	45	35	Clear.....	Brisk southeast.....	32	
April 11.....	6:45 p.m.	57	49	41	Partly cloudy.....	Light northwest.....	40	
April 12.....	6:40 p.m.	59	50	41	Partly cloudy.....	Slight northeast.....		
April 12.....	7:45 p.m.	56	49	42	Clearing.....	Slight northeast.....	40	
April 13.....	6:40 p.m.	52	42	29	Clear.....	Brisk northeast.....		
April 13.....	11:45 p.m.	41	36.5	30	Clear.....	Slight east.....	26	
April 14.....	6:30 p.m.	64	48	29	Partly hazy.....	Calm.....		
April 14.....	11:30 p.m.	45	39.5	32	Clear.....	Slight south.....	31	
April 15.....	6:45 p.m.	70	52.5	34	Clear.....	Slight west.....		
April 15.....	11:00 p.m.	53	44.5	34	Clear.....	Brisk south.....	31	
April 16.....	6:40 p.m.	71	56	43	Hazy.....	Calm.....	40	
April 17.....	6:45 p.m.	76	57	41	Hazy.....	Calm.....	38	
April 18.....	6:45 p.m.	74	58	46	Hazy.....	Light north.....	42	
April 19.....	6:45 p.m.	51	49	47	Raining.....	Calm.....	49	
April 20.....	6:40 p.m.	61	51	42	Clear.....	Slight west.....		
April 20.....	10:30 p.m.	49	46	43	Clear.....	Slight southeast.....	39	
April 21.....	6:45 p.m.	68	55	43	Hazy.....	Slight southwest.....	37	
April 22.....	6:50 p.m.	74	59	48	Clear.....	Slight southwest.....	45	
April 23.....	6:45 p.m.	79	57	37	Clear.....	Slight south.....	40	
April 24.....	6:45 p.m.	80	60	45	Few clouds.....	Slight northwest.....	44	
April 25.....	6:30 p.m.	58	49.5	42	Hazy.....	High northwest.....	44	
April 26.....	6:45 p.m.	58	47	35	Hazy.....	Strong northeast.....		
April 26.....	10:15 p.m.	46	41	35	Clear.....	Calm.....	33	
April 27.....	6:40 p.m.	59.5	49.5	40	Raining.....	Strong northeast.....	40	
April 28.....	6:45 p.m.	60	46	29	Clear.....	Light north.....		
April 28.....	10:00 p.m.	45	40	34	Clear.....	Light northeast.....	36	
April 29.....	6:45 p.m.	48	47	46	Raining.....	Slight west.....	45	
April 30.....	5:35 p.m.	56	47.5	39	Partly cloudy.....	Brisk northwest.....		
April 30.....	6:30 p.m.	54.5	47.5	40	Partly cloudy.....	Brisk northwest.....		
April 30.....	8:45 p.m.	50	46.5	43	Raining.....	Slight northeast.....	37	
May 1.....	6:30 p.m.	64	51	38	Showery.....	Slight northwest.....	44	
May 2.....	6:35 p.m.	48	44	40	Raining.....	Slight northwest.....	42	
May 3.....	6:35 p.m.	49	45.5	42	Raining.....	Slight northwest.....		
May 4.....	8:30 p.m.	48	45	42	Few clear spots.....	Slight west.....	38	
May 4.....	6:30 p.m.	52	47	42	Raining.....	Slight northeast.....		
May 5.....	7:50 p.m.	50	47	44	Raining.....	Slight northeast.....	38	
May 5.....	11:00 a.m.	61	52	44	Clear.....	Slight northwest.....		
May 5.....	6:00 p.m.	69	54.5	42	Hazy.....	Slight northwest.....		
May 5.....	6:35 p.m.	68	55	44	Hazy.....	Slight northwest.....		
May 5.....	8:45 p.m.	59	52.5	47	Clear.....	Slight northwest.....		
May 6.....	10:30 p.m.	54.5	50	48	Clear.....	Slight south.....	40	
May 6.....	6:45 p.m.	75	58	44	Hazy.....	Calm.....	44	
May 7.....	6:45 p.m.	78	60	46	Clear.....	Slight northeast.....	44	
May 8.....	6:35 p.m.	81	61	47	Partly cloudy.....	Slight west.....	44	
May 9.....	6:45 p.m.	61	57.5	55	Hail and rain.....	Stormy northwest.....	49	
May 10.....	6:30 p.m.	59	50.5	43	Partly cloudy.....	Stormy southwest.....		
May 10.....	8:00 p.m.	56	49.5	43	Clearing.....	Slight southwest.....	39	
May 11.....	7:00 p.m.	68	54	42	Clear.....	Slight northwest.....	40	
May 12.....	6:40 p.m.	69	56	45	Clear.....	Slight northeast.....	41	
May 13.....	6:35 p.m.	67	53	40	Clear.....	Brisk east.....	40	
May 14.....	6:40 p.m.	59	49	39	Clear.....	Brisk southwest.....	35	
May 15.....	7:00 p.m.	65	46.5	21	Clear.....	Brisk northeast.....		
May 15.....	10:30 p.m.	52	41	26	Clear.....	Slight southwest.....	31	
May 16.....	6:45 p.m.	75	52.5	27	Clear.....	Slight northeast.....	38	
May 17.....	6:45 p.m.	77	55.5	35	Clear.....	Slight southwest.....	38	
May 18.....	6:45 p.m.	70	51	30	Clear.....	Slight northwest.....	38	
May 19.....	6:35 p.m.	63	49	34	Clear.....	Brisk northwest.....	34	
May 20.....	6:45 p.m.	75	58	45	Clear.....	Slight northwest.....	43	
May 21.....	6:45 p.m.	80	62	50	Clear.....	Slight northwest.....	39	
May 22.....	6:40 p.m.	76	62	53	Hazy.....	Slight northeast.....	41	

TABLE 1.—Climatological data for September, 1910. District No. 12, Columbia Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Date.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.
<i>Montana.</i>																		
Anaconda.	Deer Lodge.	5,300	9	51.6	.....	80	19	25	25	45	1.93	+ 0.66	0.5	14	9	13	8	C. D. Demond.
Bison Mountain.	Powell.	7,240	1	51.9	- 1.0	81	19	25	25	42	2.20	+ 0.01	0.42	1.0	6	10	3	C. H. Anderson.
Butte.	Silver Bow.	5,716	15	51.9	6.0	91	17	23	28	49	2.62	+ 0.14	0.60	11.5	6	10	3	J. R. Wharton.
Columbia Falls.	Flathead.	3,100	16	53.2	.....	76	18	30	12 <sup>t</sup>	34	2.15	.....	0.63	1.5	7	10	10	Mrs. I. M. Kennedy.
Compt.	Ravall.	2	53.6	.....	78	18	30	12 <sup>t</sup>	34	2.15	.....	0.45	T.	10	15	8	Hiram Platt.	
Dayton.	Flathead.	2,800	6	52.7	.....	82	16	21	97	40	1.20	.....	0.70	0.0	4	8	Charley Frost.	
East Anaconda.	Deer Lodge.	5,500	5	51.0	.....	79	19	25	25	39	1.68	.....	0.65	0.6	10	12	w.	
Fortine.	Lincoln.	2,975	4	50.8	.....	80	15	19	12 <sup>t</sup>	49	2.36	.....	0.64	T.	12	15	5	C. D. Demond.
Hamilton.	Ravall.	3,575	7	53.6	.....	74	15	29	12	30	3.35	.....	0.62	9	13	11	Mike Petery.	
Hat Creek.	Powell.	6,000	1	52.0	.....	78	19	25	25	37	2.05	.....	0.64	5.2	10	10	Bitter Root Valley Ir. Co.	
Kalispell.	Flathead.	2,965	11	52.4	- 1.5	80	19	25	25	37	2.31	+ 0.98	0.77	T.	10	11	M. K. Landreth.	
Lost Creek.	Deer Lodge.	5,200	.....	.....	.....	.....	.....	.....	.....	.....	1.86	.....	0.95	0.0	7	5	U. S. Weather Bureau.	
McGinnis Meadows.	Lincoln.	51.8	.....	.....	.....	86	19	18	25	55	1.50	.....	0.58	T.	9	13	Frank Henault.	
Missoula.	Missoula.	3,225	32	56.1	+ 0.3	82	15	30	25 <sup>t</sup>	41	2.76	+ 1.53	0.99	.....	13	.....	H. L. Beebe.	
Ophir.	Powell.	8,800	1	46.1	- 4.1	80	19	13	26	44	0.93	- 0.45	0.28	0.5	8	10	U. S. Weather Bureau.	
Ovando.	do.	4,207	10	46.1	.....	85	20	26	12 <sup>t</sup>	52	1.94	.....	0.73	1.5	8	10	E. S. Wilton.	
Philipsburg.	Granite.	5,275	7	51.7	.....	82	15	30	26	44	1.78	+ 0.40	0.64	6	13	S. B. Muchmore.		
Plains.	Sanders.	2,475	13	54.4	- 1.5	82	15	30	26	44	1.78	.....	0.64	6	13	C. T. Bramble.		
Pleasant Valley.	Flathead.	3,500	3	49.3	.....	83	19	18	12	59	2.93	.....	0.78	3.0	10	M. H. Pierce.		
Polson.	do.	2,920	2	55.6	.....	77	19	31	24	31	2.06	.....	0.98	6	8	A. D. Stillman.		
St. Ignatius.	Missoula.	2,700	4	55.2	.....	84	15	27	26	40	2.58	.....	0.88	1.5	11	F. P. Brown.		
St. Regis.	do.	2,650	2	53.2	.....	85	15	25	12	49	2.35	.....	0.53	8	3	U. S. Reclamation Service.		
Saltese.	do.	3,600	6	48.5	.....	74	19	20	25	33	1.45	.....	0.65	4	22	R. D. Lee.		
Snowshoe.	Lincoln.	4,500	4	55.4	+ 0.4	86	19	28	26	52	3.91	.....	0.87	6.5	13	E. K. Tarbox.		
Troy.	do.	1,880	14	55.4	+ 0.4	86	19	28	26	52	2.34	+ 0.58	1.30	0.0	8	15	W. E. Milnor.	
Upper Lake McDonald.	Flathead.	3,200	2	52.6	.....	84	16	30	26	46 <sup>t</sup>	2.51	.....	.....	9 <sup>h</sup>	5 <sup>h</sup>	F. F. Liebig.		
Willow Glen Stock Farms.	Deer Lodge.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 <sup>h</sup>	8 <sup>h</sup>	G. E. Luce.		
<i>Wyoming.</i>																		
Afton.	Uinta.	6,200	6	54.6	+ 1.5	85	9	15	26	55	1.04	+ 0.19	0.36	0.6	5	24	6	A. U. Call.
Alta.	do.	7,000	1	51.2	.....	80	9	14	28	53	0.61	.....	0.18	T.	6	14	Mrs. Lucy Brown.	
Bedford.	do.	5,900	10	53.8	+ 2.1	84	9	17	26	57	1.20	+ 0.31	0.42	0.0	5	22	C. G. Heinzer.	
Snake River.	Yellowstone Park.	7,000	4	49.3	.....	78	9	15	26	55	0.90	.....	0.30	5	10	U. S. Army.		
<i>Nevada.</i>																		
San Jacinto.	Elko.	5	50.2	.....	92	27	22	12	55	1.50	.....	1.04	0.0	4	22	0	Moses Jones.	
Standrod.	Boxelder.	6	58.0	.....	79	81	30	26	45	1.86	.....	1.34	0.0	6	19	6	T. B. Jones.	
Idaho.	Cassia.	9	58.5	.....	88	9	20	26	55	0.76	.....	0.42	0.0	3	.....	.....	G. A. Axline.	
Albion.	do.	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. L. Eames.	
American Falls.	Onerda.	4,341	4	57.7	+ 0.1	85	15	22	26	51	0.47	- 0.04	0.29	0.0	5	18	10	O. H. Barber.
Blackfoot.	Bingham.	4,503	15	53.2	.....	84	9	16	26	54 <sup>t</sup>	0.84	.....	0.23	0.0	6	.....	.....	E. A. Dowd.
Blackfoot Dam.	do.	3,500	2	53.2	.....	84	9	17	26	57	1.20	.....	0.31	0.42	0.0	5	22	N. W. Irsfeld.
Bock's Ranch.	Elmore.	4,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William Bock.	
Bogus Creek.	Boise.	2,739	25	61.8	- 0.1	92	19	36	11	39	0.50	+ 0.69	0.35	0.0	6	19	6	F. P. Ingraham.
Boise.	Ada.	1,850	2	55.2	.....	84	19	24	25	45	2.71	.....	0.55	0.0	11	10	13	U. S. Weather Bureau.
Bonners Ferry.	Bonner.	2,651	14	60.0	- 0.3	92	19	25	26	53	0.38	- 0.26	0.23	0.0	2	2	2	W. H. Heideman.
Boulder Mine.	Boise.	4,800	2	52.0	.....	88	9	12	26	60	1.27	.....	0.30	0.0	1	19	4	Patrick Moriarty.
Buhl.	Cassia.	3,800	5	50.8	.....	80	19	26	35	37	1.77	.....	0.38	0.0	5	13	12	H. J. Idema.
Burke.	Shoshone.	4,082	4	50.8	.....	88	19	26	35	37	1.77	.....	0.45	T.	11	10	14	W. Alvin Hall.
Caldwell.	Canyon.	2,372	6	60.6	.....	88	19	30	12 <sup>t</sup>	43	0.89	.....	0.58	0.0	4	16	11	Prof. Wm. J. Boone.
Camas.	Fremont.	4,815	2	56.8	.....	84	15	20	6	54 <sup>t</sup>	2.37	.....	0.90	0.0	7	2	3	Mrs. Edna Faulkner.
Cambridge.	Washington.	2,651	14	60.0	- 0.3	92	19	25	26	53	0.38	- 0.26	0.23	0.0	2	2	2	Chas. H. Shepherd.
Cedar Creek Dam.	Twin Falls.	5,424	15	54.8	+ 3.1	88	9	12	26	60	1.17	.....	0.30	0.0	1	19	4	H. R. Collins.
Chesterfield.	Bannock.	5,157	20	60.2	+ 3.5	82	19	35	10	39	1.36	.....	0.38	0.0	5	13	12	Chas. S. West.
Coeur d'Alene.	Kootenai.	5,217	.....	.....	.....	88	9	12	26	60	1.17	.....	0.38	0.0	5	13	Jos. T. Scott.	
Cottonwood Creek.	Boise.	4,000	.....	.....	.....	90	19	20	24	60	1.36	.....	1.00	0.0	5	16	0	Frank Gerdrick.
Crawford.	do.	4,300	2	54.3	.....	89	20	31	25	49	0.94	.....	0.61	0.0	3	17	11	Mrs. Gertrude Kerby.
Culdesac.	Nez Perce.	1,520	3	58.0	.....	89	20	31	25	49	0.94	.....	0.61	0.0	5	24	5	R. R. Richmond.
Deary.	Latah.	1,350	6	59.2	.....	94	19	20	25	55	0.84	.....	0.66	0.0	4	15	12	H. M. Call.
Dent.	Nez Perce.	6,097	3	54.4	.....	93	9	17	26	51	0.50	.....	0.17	0.0	4	9	3	Emil Schuessler.
Driggs.	Fremont.	2,912	2	52.7	.....	78	9	23	26	44	0.83	.....	0.23	0.0	5	24	5	Walter H. Durrant.
Edie.	do.	1,200	.....	.....	.....	90	19	20	24	60	1.36	.....	1.00	0.0	5	18	8	Geo. B. Edie.
Edwardsburg.	Idaho.	4,500	.....	.....	.....	89	19	20	24	60	1.36	.....	0.00	0.0	7	18	4	W. A. Edwards.
Emmett.	Canyon.	2,350	4	60.8	.....	92	19	28	11	51	1.06	.....	0.81	0.0	4	23	7	C. P. Kar.
Flowers.	Blaine.	13	52.6	+ 1.2	84	16	19	26	55	0.80	- 0.19	0.50	0.6	4	16	8	U. S. Forest Service.	
Forney.	Boise.	3,800	4	52.6	.....	88	19	26	55	0.80	1.58	1.00	0.0	3	15	12	M. B. Merritt.	
Garden Valley.	Elmore.	2,575	11	64.4	- 1.7	98	19	37	12 <sup>t</sup>	48	0.58	+ 0.65	0.45	0.0	5	26	0	Mrs. Gertrude M. Ross.
Garnet.	do.	2,569	3	64.9	.....	98	19	26	26	58	0.33	.....	0.17	0.0	2	26	1	Asa A. Kenison.
Glenns Ferry.	Lincoln.	3,572	2	61.2	.....	90	19	26	26	50	0.44	.....	0.33	0.0	4	15	12	I. E. Perkins.
Gooding.	Shoshone.	3,000	2	62.0	.....	95	19	28	26	52	0.56	.....	0.20	0.0	4	5	5	John Krall, jr.
Grand Forks.	Owyhee.	2	55.4	.....	88	19	25	26	52	0.56	.....	1.62	0.70	0.0	5	25	4	Henry Kotkey.
Grimes Pass.	Boise.	5,200	2	55.4	.....	91	19	37	12 <sup>t</sup>	48	0.58	.....	0.41	0.0	5	25	4	N. G. Maasey.
Guffey.	Owyhee.	2,381	2	65.3	.....	88	19	35	11	46	1.33	.....	0.38	0.0	5	17	7	Fred Perry.
Hailey.	Blaine.	5,247	7	58.2	.....	88	19	26	26	58	0.80	.....	0.19	0.0	4	17	8	U. S. Forest Service.
Hotspings.	Owyhee.	2,752	5	64.2	.....	92	19	36	26	54	0.55	.....	1.28					

TABLE 1.—*Climatological data for September, 1910. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Total snowfall unmelted.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total.							
<i>Idaho—Cont'd.</i>																					
Moscow.	Latah.	3,748	18	56.4	- 1.1	86	19	25	25	42	0.56	- 0.68	0.30	0.0	4	9	15	6	nw.	University of Idaho.	
Mountainhome.	Elmore.	3,150	5	60.6	90	9	25	26	55	1.06	0.53	0.0	4	18	6	8	6	nw.	Mrs. Ellen Manion.		
Murtaugh.	Cassia.	4	58.8	85	9+	34	26	50	50	6.49	0.36	0.0	3	20	10	9	6	w.	J. E. Steinour.		
Nes Perce.	Nes Perce.	3,182	2	53.8	84	19	23	25	50	1.54	1.10	0.0	0	19	0	11	0	.....	P. Mitchell.		
Oakley.	Cassia.	4,700	13	61.0	+ 1.5	87	9	33	26	52	0.94	+ 0.15	0.28	0.0	6	15	14	1	s.	John Adams.	
O'Hara Bar.	Idaho.	1,400																		J. D. Agnew.	
Orofino.	Nes Perce.	1,027	6	60.4	31	20	30	26	52	1.06	0.85	0.0	5	18	13	1			Geo. Alteneder.		
Payette.	Canyon.	2,159	20	60.8	- 1.0	87	9	28	26	50	1.27	+ 0.67	0.95	0.0	3	15	9	6	n.	E. F. Allen.	
Peaceful Valley.	do.	2,380	2	62.4	90	11	30	26	52	0.58	0.46	0.0	3	24	4	2	2	nw.	J. W. Newton.		
Pebble.	Bannock.	5,277	2	55.6	89	15	17	26	57	0.94	0.25	0.0	6	12	15	3	5	sw.	Mrs. Fannie Say.		
Pierson.	Custer.	6,900		48.6	78	11+	15	26	58	2.17	1.13	0.0	4	21	4	5	5	.....	David P. Clarke.		
Pine.	Elmore.	4,100																		Mrs. Jennie Potter.	
Placerville.	Boise.	4,200																		James McDevitt.	
Pleasant Valley.	Ada.	3,000	3	59.9	91	19	28	11	48	0.67	0.25	0.0	5	23	4	3	3	se.	C. E. Friedrich.		
Pocatello.	Bannock.	4,483	11	61.3	+ 0.6	87	9	32	26	46	0.36	- 0.52	0.20	0.0	7	19	7	4	se.	U. S. Weather Bureau.	
Pocatello Nursery.	do.	5,396	3	54.8	85	9	24	26	58	1.13	0.31	0.0	4							Mrs. Anna M. Wrensted.	
Poplar.	Bingham.																			Stanley Bybee.	
Porthill.	Bonner.	1,685	22	54.6	+ 0.7	82	20	25	25	41	0.97	- 0.96	0.27	0.0	5	15	5	10		H. A. French.	
Powers Ranch.	Boise.	4,300																		Mrs. Mary French.	
Pyle Creek.	do.	3,100	2																	Walter L. Cole.	
Rattlesnake Creek.	Elmore.	4,000																		Richard M. Green.	
Richfield.	Lincoln.			60.1		88	19	26	11	50	0.73									C. H. Fitch.	
Roseworth.	Twin Falls.																			D. B. Hartwell.	
Ruby Creek.	Boise.	4,400																		O. A. Hatter.	
Rupert.	Lincoln.	4,204	4	60.2	88	9	25	26	55	0.78	0.41	0.0	6	23	2	5	5	w.	Will Parry.		
St. Maries.	Kootenai.	2,263	14	57.0	- 0.3	90	19	27	25	50	1.51	+ 0.03	0.36	0.0	10	10	13	7	se.	J. S. Turnbull.	
Salmon.	Lemhi.	4,040	5	56.8	88	16	23	23	55	0.88	0.25	0.0	7	17	11	2	2	w.	E. K. Abbott.		
Salmon River Dam.	Twin Falls.	3	61.0																	Arch M. Gilbert.	
Sandpoint.	Bonner.	2,086																		Clifford M. Garner.	
Sheep Hill.	Boise.	5,000	2																	O. A. Truman.	
Shoshone.	Lincoln.	3,968	3																	A. D. Bradfield.	
Silver City.	Owyhee.	5,280	3																	Wm. W. Newell.	
Smith Prairie.	Elmore.	5,200																		T. D. Crittenden.	
Smith Ranger Station.	Bonner.	1,080	2																	J. E. Minear.	
Soldier Creek.	Blaine.			56.8		87	9	28	26	51	1.59	0.75	0.0	4	15	10	5	5	w.	Douglas Allmond.	
Springfield.	Bingham.	4,420	2	58.0	87	9	25	5+	53	1.04	0.38	0.0	5	19	8	3	3	sw.	Mrs. W. A. Edwards.		
Sugar.	Fremont.	4	55.4	84	19	23	25	49	1.20	0.49	0.0	6	19	3	8	8	sw.	Arthur Cutting.			
Sunny-side.	Elmore.	2	61.4	92	19	32	11	48	1.25	0.50	0.0	5							E. A. Wilmet.		
Tripod Mountain.	Boise.	4,300	2	60.0	89	19	27	26	54	1.46	0.76	0.0	5	15	8	7	7	nw.	Mrs. Verna Paddock.		
Twin Falls.	Twin Falls.	3,825	5	60.0	89	19	27	26	54	0.95	0.40	0.0	5	20	10	0	0	c.	J. A. Waters.		
Vernon.	Fremont.	13	55.7	+ 0.9	84	19	26	26	44	0.74	- 0.15	0.55	0.0	2	8	13	9	sw.	A. M. Slater.		
Wallace.	Shoshone.	2,728	3	56.0	87	19	29	25	44	1.41	0.50	0.0	9						U. S. Weather Bureau.		
Wendell.	Lincoln.	3,400	3	63.0	92	9	28	26	49	1.13	0.40	0.0	5	20	10	0	0	w.	Chas. L. Dingler.		
<i>Washington.</i>																					
Aberdeen.	Chehalis.	162	19	56.6	- 1.0	79	19	38	11	35	4.36	- 0.25	1.13	0.0	9	3	25	2	w.	Carl S. Weatherwax.	
Anacortes.	Skagit.	60	16																	Douglas Allmond.	
Baker.	do.	200	4	59.8		85	14	39	12+	44	1.81	- 0.52	0.0	8	15	1	14			Robt. M. White.	
Bellingham.	Whatcom.	60	15	56.8	+ 0.6	82	13	35	25	32	0.72	- 1.93	0.26	0.0	5	7	10	4	se.	Sanford B. Mayhew.	
Blaine.	do.	57	13	55.8	+ 1.9	82	13	31	25	36	1.15	- 2.38	0.62	0.0	7	7	17	6	sw.	U. S. Weather Bureau.	
Blalock Island.	Benton.																			Blalock Island Garden Co.	
Blewett.	Chelan.	2,200																		John Beemerster.	
Bremerton.	Kitsap.	30																		U. S. Navy Yard.	
Brewster.	Okanogan.	1,620	61.2																	Mrs. H. F. Bertram.	
Bumping Lake.	Yakima.		49.6																	U. S. Reclamation Service.	
Cashmere.	Chelan.																			Valley Power Co.	
Cedar River.	King.	535	3																	George Landsburg.	
Centralia.	Lewis.	212	17	57.2	- 1.2	81	13	31	12	46	1.78	- 0.78	0.55	0.0	7	11	10	9	s.	I. S. Turner.	
Cheney.	Spokane.	2,351	11																	Northern Pacific Ry.	
Clealum.	Kittitas.	1,930	11	54.2	- 1.3	89	19	25	9	54	0.74	- 0.22	0.35	0.0	5	19	5	6	nw.	J. A. Balmer.	
Clearbrook.	Whatcom.	140	7	56.6	87	19	26	25	47	2.45	1.31	0.0	6	7	12	11	11	sw.	Geo. Gibbs.		
Clearwater.	Jefferson.	135	14																		
Colfax.	Whitman.	2,300	21																	W. H. James.	
Colville.	Stevens.	1,635	10	56.6	+ 0.1	90	20	35	25	53	0.71	- 0.08	0.45	0.0	6	16	4	10	sw.	W. L. Sax.	
Conconully.	Okanagan.	2,300	10	57.4	+ 1.2	87	20	31	25	40	0.43	- 0.56	0.21	0.0	3	18	15	7	n.	Wm. Baines.	
Cowiche.	Yakima.	2,000	1																	U. S. Reclamation Service.	
Crescent.	Lincoln.	2,250	10																	Otto Wollweber.	
Davenport.	do.	3,450	1	56.6		86	19	31	25	49	1.60	0.90	0.0	8	20	6	4	sw.	C. H. Cleaver.		
Dayton.	Columbia.	1,700	24	62.4	+ 2.5	81	14	39	24	33	0.36	- 0.72	0.17	0.0	4	19	8	3	sw.	Frank Kuehnel.	
Detroit.	Mason.	30	3	58.0		86	13	40	12+	45	2.39		0.82	0.0	6	12	14	4	se.	Dr. A. V. Marion.	
Dixie.	Walla Walla.	5,000	1																	Dr. B. Hill.	
Duckabush.	Jefferson.	380	2	56.8		80	15	39	9+	36	2.57	0.62	0.0	7	7	6	15 <sup>b</sup>	sw.	Mrs. Mandie Shain.		
East Sound.	San Juan.	500	15																		
Ellensburg.	Kittitas.	1,571	22	57.4	+ 1.0	88	19	30	9+	49	0.65	+ 0.17	0.40	0.0	4	18	8	4	nw.	Benj. E. Harrison.	
Ephrata.	Grant.	1,265	7	64.4	89	14	36	26	47	0.30		0.0								R. Lee Barnes.	
Forks.	Challam.	480	1	57.8	86	18	35	25	43 <sup>b</sup>	3.10	1.55	0.0	9	11 <sup>a</sup>	3 <sup>a</sup>	15 <sup>a</sup>	4 <sup>c</sup>	sw.	T. J. Cook.		
Fort Simcoe.	Yakima.	1,427	16	60.1	- 3.6	90	19	32	11	56	1.80	+ 1.43	0.50	0.0	4	24	4	2	w.	E. A. Markham.	
Goat Lake.	Sno																				

TABLE 1.—Climatological data for September, 1910. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal:			Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal:			Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	
					Date.	Highest.	Lowest.						Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.				
Washington—Cont'd.																					
Laurier.	Ferry.	59.9			91	20	27	25	49	0.82		0.31	0.0	7	11	5	14	sw.			
Lester.	King.	57.6 <sup>a</sup>	6		85	14	33	12	48 <sup>a</sup>	1.90		1.00	0.0	16 <sup>a</sup>	0 <sup>a</sup>	7 <sup>a</sup>	w.	W. W. Clabaugh.			
Lone Tree.	Chehalis.	56.4	14		71	12	47	15 <sup>a</sup>	21	3.51		1.06	0.0	9	4	15	11	nw.			
Longmire Springs.	Pierce.	2,800	1								0.45		0.25	0.0	3	15	9	6	sw.		
Lost Creek.	Okanogan.	3,125	1																		
Luerne.	Chelan.	1,100	3															Mrs. Barbara Shearer.			
Lyle.	Klickitat.	600	17															Mrs. Mary McCumber.			
McCumber's Ranch.	Yakima.	2,183	1															H. B. Smith.			
Merritt.	Chelan.	2,175	3															G. H. Mottiger.			
Mettinger.	Benton.	307	10	65.3	— 0.7	96	1	40	28	40	0.27	— 0.29	3.19	0.0	2	24	4	2	w.		
Mount Pleasant.	Skamania.	650	10	68.0	— 1.4	82	2	39	7	32	1.25	— 1.40	0.57	0.0	6	18	6	6	w.		
Moxee.	Yakima.	1,000	18	61.0	+ 1.1	89	20	33	9	47	0.37	— 0.05	0.33	0.0	4	12	13	5	e.		
Newport.	Stevens.	2,400	55.0			88	18	26	25 <sup>a</sup>	55	1.93	+ 0.33	0.64	0.0	9	8	16	6	Chas. M. Talmadge.		
Nighthawk.	Okanogan.	3,050																Steve Nagy.			
North Head.	Pacific.	211	8	54.4	— 1.8	73	12	47	25	19	2.42	+ 0.57	0.97	0.0	10	4	7	19	U. S. Weather Bureau.		
Northport.	Stevens.	1,350	11	58.1 <sup>d</sup>		86	19	31	23	43 <sup>c</sup>	1.00		0.70	0.0	3	11	16	3	Forrest B. Phillips.		
North Yakima.	Yakima.	1,070	1	61.8		89	19	37	25	38	0.38		0.37	0.0	2	18	6	6	U. S. Weather Bureau.		
Nutland.	Klickitat.	1	60.8			82	15	28	26	39	0.03		0.03	0.0	1				J. R. Shepard.		
Odessa.	Lincoln.	1,540	7	60.6		89	4	32	11	44	2.39		1.07	0.0	5	8	21	1	Wm. N. Gruell, sr.		
Olga.	San Juan.	50	20	55.8	+ 0.3	74	12 <sup>a</sup>	42	25	28	1.16	— 1.07	0.12	0.0	6	12	15	3	Peter McClung.		
Omak.	Thurston.	200	32	54.8	— 2.1	81	3	35	12	41	1.43	— 1.38	0.45	0.0	7	11	10	9	U. S. Weather Bureau.		
Oroville.	Okanogan.	850	1															Cecil S. Willis.			
Peola.	Ferry.	922	1															M. O'Connor.			
Pomeroy.	Garfield.	5,000	1															Wm. G. Taft.			
Port Crescent.	do.	1,500	18	59.6	— 2.2	89	18	30	25	49	1.70		0.56	0.0	8	16	10	4	A. M. Dufield.		
Port Townsend.	Clallam.	259	15	51.3	— 1.2	83	19	38	25	38	1.58	— 0.72	0.55	0.0	9	8	16	6	Samuel Gruell, sr.		
Pullman.	Jefferson.	80	20	56.6	— 0.4	77	13	42	25	23	1.38	+ 0.18	0.64	0.0	7	9	5	6	Peter McClung.		
Quinault.	Whitman.	2,550	18	57.8	— 0.9	87	19	28	25	41	0.76	— 0.58	0.26	0.0	6	15	9	6	U. S. Weather Bureau.		
Republic.	Chehalis.	300	3	57.2		80	2 <sup>a</sup>	40	25	39	5.52		2.76	0.0	10	12	11	7	Frank Plummer.		
Rex Creek.	Ferry.	2,628	10	55.0	+ 0.9	88	20	23	25	50	0.58		0.25	0.0	7	16	3	6	State Agricultural College.		
Ritzville.	Chelan.	1,135	3															A. V. Higley.			
Rock Lake.	Adams.	1,825	11															Geo. B. Stocking.			
Rossalia.	Whitman.	1,910	4															James N. Nicol.			
Russells Ranch.	do.	2,425	18	57.2	+ 1.0	85	14	33	26	38	1.01	— 0.15	0.67	0.0	5	12	9	9	Northern Pacific Ry.		
Scenic Hot Springs.	Yakima.	2,870	1															P. M. Ramsey.			
Seattle.	King.	2,021																Hans Mumun.			
Sedro-Wooley.	do.	123	19	58.0	+ 0.1	75	2	47	9	24	1.04	— 0.89	0.60	0.0	6	2	17	11	Maggie M. Russell.		
Spixrong.	Skagit.	38	13	58.8	+ 1.3	84	2	33	25	43	2.27	— 1.02	1.09	0.0	9	8	16	6	U. S. Weather Bureau.		
Klickitat.	Whatcom.	1,240	3	63.1		89	16	40	11	38	0.25		0.17	0.0	3	17	8	5	Mrs. H. L. Devin.		
Skagit Power Dam.	Skagit.	5,300																C. E. Comstock.			
Snohomish.	Skagit.	100	16	56.6	— 0.6	81	2	34	13	46	2.10	— 1.08	0.70	0.0	9	16	1	13	Skagit Power Co.		
Snoqualmie Falls.	King.	667	11	57.4	+ 0.1	81	2	35	13	39	1.26	— 1.80	0.30	0.0	8	16	0	14	Warren Dodge.		
Snoqualmie Pass.	Kittitas.	3,000																O. N. Wiswell.			
Snyders Ranch.	Okanogan.	2,200	1															C. E. Ingraham.			
South Bend.	Pacific.	16	15	57.2	— 2.1	82	2	41	12	35	4.02	+ 0.73	1.07	0.0	14	7	16	2	Geo. M. Snyder.		
Spokane.	Spokane.	1,943	29	59.0	+ 0.2	87	19	39	25	39	1.93	— 0.92	0.51	0.0	8	8	12	7	Miss Winifred Eichner.		
State University.	King.	1	56.8 <sup>a</sup>			74	2	44	25	23 <sup>a</sup>	0.72		0.48	0.0	4	9	8	13	U. S. Weather Bureau.		
Stokes Ranch.	Okanogan.	3,670	1															University of Washington.			
Sullivan Lake.	Stevens.	2,700																Chas. W. Gunn.			
Summer.	Pierce.	77	3	55.1		78	2	32	12	41	1.04		0.42	0.0	4	11	5	14	U. S. Forest Service.		
Sunnyside.	Yakima.	740	15	60.5	— 0.2	89	19	34	26	44	0.40		0.06	0.38	0.0	3	14	9	H. E. Thompson.		
Tacoma.	Pierce.	213	24	57.6	— 0.0	74	2	43	25	27	1.62	— 0.85	0.94	0.0	5	7	13	10	U. S. Reclamation Service.		
Tatoosh Island.	Clallam.	88	25	52.4	— 1.5	68	13	44	2	19	2.85	— 3.29	1.30	0.0	12	7	15	15	U. S. Weather Bureau.		
Tieton.	Yakima.	2,000	1	55.2		84	19	32	25	44	0.67		0.42	0.0	7	14	8	8	Do.		
Touchet.	Walla Walla.	556	3	59.0		85	27	29	26	49	0.48		0.40	0.0	3	13	3	14	U. S. Reclamation Service.		
Trinidad.	Columbia.	2,500	1			92	19	41	25	37	0.68		0.39	0.0	3	12	18	0	D. W. Dorrance.		
Twin Sister Lakes.	Grant.	900	6	64.9														R. H. King.			
Twisp.	Yakima.	4,500	7															J. C. Wheeler.			
Upper Cleafum Valley.	Okanogan.	2,000	1															Elias McCrea.			
Vancouver.	Kittitas.	5,300																A. A. Quarnborg.			
Vashon Island.	Clarke.	100	35	60.3	— 0.6	85	2	38	25	41	1.34	— 0.37	0.65	0.0	8	14	8	8	Miss Gertrude McClintonck.		
Wahluke.	King.	40	21	55.5	— 1.7	72	13	42	12	29	1.47	— 0.72	0.42	0.0	5	9	3	18	F. C. Koppen.		
Wallace.	Grant.	410	6	65.4		94	19	42	15	40	0.83		0.58	0.0	3	13	11	6	G. A. Wallace.		
Okanagon.	Okanagon.	4,000	1															U. S. Weather Bureau.			
Waterville.	Walla Walla.	1,000	26	62.4	— 3.0	82	20	38	25	32	0.70	— 0.23	0.69	0.0	3	14	11	5	O. R. Hopewell.		
Wenatchee (near).	Douglas.	2,624	20	56.6 <sup>a</sup>	— 0.1	86	20	38	25	43 <sup>c</sup>	0.68	+ 0.09	0.22	0.0	4	20	3	4	Geo. A. Pitcher.		
West Branch.	Chelan.	1,169	11	59.4	— 0.9	86	19	38	25	30	0.68	+ 0.17	0.60	0.0	3	14	12	4	U. S. Forest Service.		
Wilbur.	Stevens.	2,600																Rollin J. Reeves.			
Wilbur.	Lincoln.	2,203	11	54.2	— 2.6	87	19	25	25	49	0.63	— 0.06	0.28	0.0	6	14	8	8	L. F. Williams.		
Yale.	Cowlitz.	375	3	57.4		84	2	33	7	37	1.82		0.70	0.0	7	9 <sup>a</sup>	5 <sup>a</sup>	7	M. W. Zindel.		
Zindel.	Asotin.	715	8	68.0		98	14	41	27	46	2.96		1.01	0.0	4	16	7	7			
Oregon.																					
Albany.	Linn.	214	28	58.2	+ 1.6	84	2	38	7	40	1.32	— 0.59	0.46	0.0	3	11	9	10	F. M. French.		
Ashland.	Jackson.</																				

TABLE 1.—*Climatological data for September, 1910. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
						Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
Oregon—Cont'd.																					
Falls City.	Polk.	355	13	57.4	-0.6	83	2	37	1†	42	1.01	-1.48	0.57	0.0	4	20	5	5	s.	Chas. F. Vick.	
Forest Grove.	Washington.	220	20																Pacific University.		
Gardiner.	Douglas.	72	20	57.2	-1.5	78	2	40	12	26	0.44	-2.29	0.34	0.0	2	16	10	4		Hon. J. S. Gray.	
Glendale.	do.	1,441	5	55.7		86	26†	7	49	0.37		0.15	0.0	3	25	3	2	nw.	B. J. Simpson.		
Glenore.	Tillamook.	575	18	56.2	-1.3	84	2	32	30	45°	2.70	-2.81	0.98	0.0	6	18°	1°	7°	nw.	Mrs. Jennie Reeker.	
Gold Beach.	Curry.	40	8	53.8		72	2†	37	25	35	0.02		0.02	0.0	1	23	0	7	nw.	C. Dewey.	
Granite.	Grant.	4,680	4	51.5		79	18	19	7	56	0.28		0.18	0.0	2	7	17	6	nw.	L. M. Ford.	
Grants Pass.	Josephine.	956	21	58.8	-1.2	90	2†	30	25	54	0.47	-0.42	0.17	0.0	4	22	6	6		John B. Paddock.	
Grass Valley.	Sherman.	2,981	5	52.6		80	19	24	6	46	0.70		0.57	0.0	2	10	1	10	ne.	Oreg. Ry. & Navigation Co.	
Grindstone.	Crook.	5,000	9																Orrin C. Mills.		
Headworks.	Clackamas.	719	4	50.8		86	2	36	6†	42									Portland Water Works.		
Heppner.	Morrow.	1,950	21	57.4	-2.6	83	23†	32	25	41	0.30	-0.75	0.11	0.0	5	15	10	5	nw.	Ralph Kenton.	
Hermiston.	Umatilla.	450	3	62.0		86	3	32	25	45	0.37		0.16	0.0	3	21	7	3		C. W. Kellogg.	
Hood River.	Hood River.	300	19	59.5	-0.1	87	28	35	25†	50	0.45	-1.64	0.45	0.0	1	16	0	14	w.	H. L. Hasbrouck.	
Huntington.	Baker.	2,165	9																J. M. Day.		
Jacksonville.	Jackson.	1,640	21	61.1	-1.1	80	23	36	7	44	0.96	+0.05	0.40	0.0	4	22	3	5		E. Britt.	
Joseph.	Wallowa.	4,400	21	53.0	-0.4	74	23	30	6	39	1.05	+0.83	0.70	0.0	5	9	13	8	s.	F. F. McCully.	
Klamath Agency.	Klamath.	4,169	2	48.5		78	1†	20	11†	56	0.19		0.15	0.0	3	19	6	5	w.	Edison C. Watson.	
Klamath Falls.	do.	4,250	15	55.1	-3.6	79	5†	30	14	43	0.63	+0.13	0.33	0.0	4	23	6	3	nw.	W. H. Heileman.	
Le Grande.	Union.	3,784	24	58.9	-0.1	88	19	28	26	50	0.49	-0.61	0.24	0.0	5	16	6	8		W. A. Worstell.	
Lakeview.	Lake.	4,800	7																Geo. L. Horton, jr.		
McKenzie Bridge.	Lane.	2,150	1	55.6	-2.4	83	2	26	7†	51	1.11	-1.27	0.61	0.0	5	16	0	14	sw.	Howard W. Turner.	
McMinnville.	Yamhill.	12	6	58.0	-1.3	86	2	36	7	40	1.81	-0.13	1.28	0.0	6	12	5	13	sw.	U. S. Weather Bureau.	
Madras.	Crook.	1,400	7																Geo. Frissell.		
Marshfield.	Coos.	4,070	4	55.7		79	19	38	11	31			0.30	0.0	2	23	3	4		Mrs. Agnes Ritchson.	
Merrill.	Klamath.	180	22	53.6		80	2†	25	14	50	0.31		0.18	0.0	1	24	3	3	w.	Frank Little.	
Mikkalo.	Gilliam.	1,600	4	58.4		83	19	31	25	39	0.18		0.18	0.0	9	13	10	7		G. M. Muecke.	
Miramonte Farm.	Clackamas.	195	21	58.9	-0.5	85	2	37	7	39	1.64		0.52	0.62	0.0	9	13	10	7	n.	L. A. Peck.
Monroe.	Benton.	350	13																Dr. U. F. Fisher.		
Mount Angel.	Marion.	485	24	60.4	-1.0	82	2	40	7	35	1.88	-0.13	1.15	0.0	7	18	7	5	w.	M. Markley.	
Mountain Park.	do.	1,440	4	57.0		82	19	36	7	40	0.55		0.45	0.0	2	15 <sup>d</sup>	6 <sup>a</sup>	5 <sup>d</sup>	w.	Alex. Lundburg.	
Musick.	Douglas.	5,000	5	50.6		71	2	31	11†	29	1.87		0.76	0.0	7	21	2	7		William Matthews.	
Newport.	Linton.	69	22	55.1	-0.9	79	12	40	25	36	0.65	-2.06	0.44	0.0	5	8	14	8	nw.	E. C. Woodward.	
Paisley.	Lake.	4,500	6	56.5		82	5†	31	11	37	0.76		0.40	0.0	3	20 <sup>a</sup>	6 <sup>a</sup>	3 <sup>a</sup>	sw.	E. F. Averill.	
Pendleton.	Umatilla.	1,070	20	59.2	-2.1	86	2†	29	26	50	0.79	-0.10	0.43	0.0	4	12	17	1	sw.	John P. McManus.	
Pilot Rock.	do.	1,817	1	60.9		93	3	35	25	49	0.71		0.44	0.0	4	18	0	12		O. C. Yocom.	
Pompeii.	Clackamas.	3,879	15	50.2	-1.3	77	19	31	7	35	1.75	-2.71	0.55	0.0	6	16	5	9	sw.	U. S. Weather Bureau.	
Portland.	Multnomah.	57	38	60.0	-1.1	82	2	45	7	30	1.15	-0.50	0.56	0.0	7	5	12	13	nw.	J. P. Jefferson.	
"P" Ranch.	Harney.	4,300																	Geo. Whetles.		
Princeville.	Crook.	2,864	13			83	30				0.54	-0.11	0.25	0.0	4	19 <sup>a</sup>	5 <sup>a</sup>	5 <sup>a</sup>		Mrs. Iva B. Collins.	
Prospect.	Jackson.	2,750	4																Craig Thom.		
Ramsey.	Wasco.	1,350																	C. G. Morgan.		
Range.	Grant.	3,500	1																Mrs. Leah Fairman.		
Richland.	Baker.	2,350	8	59.0		86	19	29	11†	46	1.29		0.71	0.0	4	21	5	4		U. S. Weather Bureau.	
Riverside.	Malheur.	3,000	11																M. P. Baldwin.		
Roseburg.	Douglas.	523	33	59.6	-1.5	84	2	38	7	37	0.89	-0.15	0.52	0.0	6	14	10	6	n.	M. S. Weather Bureau.	
Salem.	Marion.	120	20	59.0	-1.8	86	2	41	25	32	1.26	-0.38	0.44	0.0	6	16	6	8	nw.	Hon. J. A. Wright.	
Siskiyou.	Jackson.	4,115	1	55.2		78	2	33	11	33	0.49		0.40	0.0	3	18	8	4	n.	John P. Gage.	
Sparta.	Baker.	4,150	17																S. L. Brooks.		
Stafford.	Clackamas.	400	13	59.9	-1.6	87	2	39	7	38	1.24	-1.08	0.66	0.0	6	20	1	9		C. B. Crosno.	
The Dalles.	Wasco.	112	35	62.0	-0.3	86	19	39	25†	40	0.05	-0.53	0.44	0.0	2	24	3	3	nw.	Mrs. Helen T. Duncan.	
Toledo.	Linton.	75	20	63.0	+4.5	85	2	45	14†	34	0.87	-2.00	0.37	0.0	2	18	1	11	w.	H. P. Osborn.	
Umatilla.	Umatilla.	340	14	63.0	-2.2	85	3	40	11	39	0.36	-0.15	0.27	0.0	3	24	4	2		Geo. Howe.	
Vale.	Malheur.	2,242	18	61.6	+2.9	92	9	31	5†	57	0.69	+0.18	0.37	0.0	5	18	5	7		Chas. A. Parks.	
Van.	Harney.	3,506	4	54.4		85	2	29	4†	55	1.25		0.99	0.0	2	19 <sup>a</sup>	9 <sup>a</sup>	1 <sup>a</sup>	nw.	L. J. Coverstone.	
Wallace Orchard.	Polk.	170	1	61.8		84	2	37	25	36	1.16		0.68	0.0	4	2	24	4		A. J. Swift.	
Wallowa.	Wallowa.	2,935	7	55.7		88	19	23	11	51	1.12		0.47	0.0	5	9	5	16		C. C. Covey.	
Wasco.	Wasco.	1,263	2	58.4		80	8†	38	25†	46	0.17		0.13	0.0	2	22	7	1	w.	M. A. Baker.	
Warm Springs.	Crook.	1,200	8	58.4		88	4	28	11	49	0.81		0.71	0.0	2	18	5	7	nw.	J. M. John.	
Weston.	Umatilla.	1,800	20	60.2	+1.6	80	20†	30	25	42	1.42	-0.11	0.70	0.0	5	7	10	13	sw.	Jacob Rueke.	
Williams.	Josephine.	1,368	17																		
Yonna.	Klamath.	3	51.2†			70	3	24	8	54*	0.60		0.30	0.0	3	22	6	2	s.		

\* Precipitation included in that of the next measurement.

\*\* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

\*\* Estimated by observer.

† Precipitation for the 24 hours ending on the morning when it is measured.

‡ Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for September, 1910. District No. 12, Columbia Valley.*

TABLE 2.—*Daily precipitation for September, 1910. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for September, 1910. District No. 12—Continued.*

Stations.	River basins.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Washington—Cont'd.</i>																																		
North Head.	Coast.	.05	.06			.04																												2.42
Northport.	Columbia.					.70																											1.00	
North Yakima.	Yakima.	T.				.01																											0.38	
Nutland.	Columbia.																																0.03	
Odessa.	do	.16				.02																											2.39	
Oila.	Puget Sound.					.93																											1.16	
Olympia.	do																																1.43	
Omak.	Okanogan.																																	
Oroville.	do																																	
Peela.	Snake.	.09	T.	.56	.08																												1.70	
Pomeroy.	do																																0.30	
Port Crescent.	Coast.																																1.58	
Port Townsend.	Puget Sound.		.02		.18	T.	.02	T.	.03	.12																					1.38			
Pullman.	Palouse.	.06		.16																													0.76	
Quinault.	Coast.																																5.52	
Republic.	Kettle.																																0.58	
Rex Creek.	do																																	
Ritzville.	Columbia.	.08																																1.02
Rock Lake.	Palouse.																																	
Rosalia.	do																																	1.01
Russell Ranch.	Yakima.																																	
Scenic Hot Springs.	Puget Sound.		.01																															
Seattle.	do					.06	.40																										2.27	
Sedro-Woolley.	Columbia.					.07																											0.25	
Sixprong.	Puget Sound.																																	
Skagit Power Dam.	do																																	
Snohomish.	do																																	2.10
Snoqualmie Falls.	T.	.05	T.	.70																													1.26	
Snoqualmie Pass.	do																																	
Snyder Ranch.	Yakima.																																	0.71
South Bend.	Columbia.																																	4.02
Spokane.	Spokane.	.24		.18																													1.93	
State University.	Puget Sound.																																	
Stokes Ranch.	Columbia.	.09		.05																														0.50
Sullivan Lake.	Fend d'Oreille.																																	
Sumner.	Puget Sound.																																	1.04
Sunnyside.	Yakima.																																	
Tacoma.	Puget Sound.																																	0.40
Tatoosh Island.	Coast.	.01	T.	.T.	.T.	.39	T.	.15	.20																								1.82	
Tieton.	Yakima.	.03				.01																												
Touchet.	Columbia.																																	0.48
Touchet Ridge.	do																																	0.54
Trinidad.	do																																	0.66
Twin Sister Lakes.	Yakima.																																	
Twisp.	Columbia.																																	
Tyne.	do																																	1.16
Upper Clealum Valley.	Yakima.																																	
Vancouver.	Columbia.	.05																																1.34
Vashon Island.	Puget Sound.																																	
Wahluke.	Columbia.	.04																																0.83
Wallace.	Okanagan.																																	0.39
Walla Walla.	Columbia.																																	0.70
Waterville.	do																																	
Wenatchee (near).	do																																	0.98
West Branch.	Spokane.																																	0.63
Wilbur.	Columbia.	.08																																1.82
Yale.	do																																	2.96
Zindel.	Snake.	1.01																																
<i>Oregon.</i>																																		
Albany.	Willamette.																																	1.22
Ana River.	Southeast Drainage.																																	
Ashland.	Rogue.																																	0.59
Astoria.	Columbia.	.01		.02	.14																												1.61	
Bagley's Ranch.	Snake.																																	
Baker City.	do																																	
Bear Creek.	Deschutes.	.01																																

TABLE 2.—*Daily precipitation for September, 1910. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for September, 1910. District No. 12—Continued.*

TABLE 3.—*Maximum and minimum temperatures at selected stations, September, 1910. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyo.				Idaho.																			
	Kalipell.		Missoula.						Boise.		Bonner's Ferry.		Hotsping.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	52	44	68	46	76	35	71	52	74	45	85	51	68	52	72	41	68	42	71	50	68	42	71	35	64	44		
2...	61	37	68	43	75	28	74	45	78	35	45	73	47	74	39	76	30	74	42	74	32	72	34	72	34	64	44	
3...	60	42	68	37	72	35	70	45	69	49	80	48	72	47	71	38	75	30	75	45	81	31	74	36	68	41		
4...	55	46	56	45	59	38	68	50	70	45	86	51	74	55	75	32	70	43	64	44	65	40	60	36	61	46		
5...	62	45	63	39	70	24	80	46	56	49	82	45	80	48	75	40	74	26	74	36	80	25	71	28	65	41		
6...	55	42	61	45	77	33	68	49	55	39	73	51	68	49	78	39	64	37	76	54	71	40	72	34	63	42		
7...	51	38	54	38	78	17	72	48	60	41	73	41	71	43	72	29	70	26	77	47	69	47	72	40	57	40		
8...	63	36	60	43	80	30	84	46	70	39	85	44	79	50	85	34	79	29	82	36	73	37	74	39	65	43		
9...	64	34	77	40	85	30	84	50	66	30	85	43	80	47	83	40	82	31	87	41	81	29	81	37	70	36		
10...	58	41	61	39	72	39	66	47	64	32	82	50	67	48	78	44	70	32	71	54	71	28	67	44	64	38		
11...	56	37	58	41	60	40	64	36	66	33	65	40	72	39	75	33	67	26	59	44	67	29	68	42	64	32		
12...	60	31	59	41	70	42	74	39	72	37	79	49	78	41	75	35	73	26	71	47	68	36	69	37	64	34		
13...	69	34	66	49	74	40	78	53	72	36	80	50	83	57	77	40	78	38	80	50	78	38	80	45	71	46		
14...	72	39	77	41	77	33	72	54	81	38	80	59	89	49	67	43	74	41	76	57	80	48	71	50	81	45		
15...	79	52	82	51	78	42	71	61	81	45	80	59	78	60	72	42	75	51	81	54	83	57	80	46	82	60		
16...	76	59	81	58	74	44	74	56	78	56	81	60	75	60	71	48	63	54	79	57	88	56	78	51	79	57		
17...	74	52	76	52	76	43	71	52	77	40	76	53	64	51	70	45	69	50	81	56	73	48	80	50	73	50		
18...	75	43	76	50	78	43	77	51	80	37	76	52	75	47	78	47	67	44	78	54	80	48	81	48	79	41		
19...	80	43	81	45	83	46	93	58	84	39	92	57	83	51	79	42	89	48	85	49	86	40	84	40	87	43		
20...	78	51	79	51	79	40	79	61	84	41	88	57	90	63	71	45	77	47	81	58	77	47	81	45	82	53		
21...	65	50	70	50	75	40	64	53	73	55	76	48	70	56	73	42	68	43	67	67	80	40	68	50	69	53		
22...	66	47	69	51	68	34	72	45	73	51	68	46	78	55	62	39	75	40	66	45	67	47	64	39	69	49		
23...	70	43	73	40	67	32	73	53	72	45	80	46	83	51	67	40	76	37	74	43	74	34	68	37	70	44		
24...	52	32	68	40	77	32	74	49	63	38	84	47	72	49	72	33	77	36	77	52	69	49	71	34	61	43		
25...	48	25	56	30	66	36	67	38	58	24	72	45	68	38	61	35	70	26	63	39	63	30	63	28	62	29		
26...	58	28	66	30	65	15	75	41	64	32	75	36	73	38	62	30	72	30	70	33	71	23	64	26	65	29		
27...	65	34	73	32	75	21	83	44	72	34	84	40	78	43	71	34	79	23	79	40	77	26	72	26	74	35		
28...	64	41	74	40	77	37	76	50	68	40	83	45	71	47	74	39	77	38	82	53	71	32	73	37	67	39		
29...	58	41	69	43	79	40	76	48	53	34	80	48	64	71	71	40	72	35	73	53	80	34	72	35	64	46		
30...	64	42	75	48	75	27	82	46	60	42	82	45	80	50	72	42	76	37	79	45	83	51	72	36	68	47		
31...																												
Mns	63.7	41.0	68.8	43.4	73.9	35.2	74.8	48.8	70.0	40.3	79.7	48.7	75.2	49.3	72.7	38.8	73.6	36.5	75.0	47.6	74.6	38.9	72.6	38.8	69.3	42.6		

Date.	Washington.								North Yakima.								Seattle.								Spokane.		Tacoma.		Tatooch Island.											
	Aberdeen.				Blaine.				Colville.				Kosmos.				Lakeside.				North Head.				Odessa.				Port Crescent.				Strong.		Spokane.		Tacoma.		Tatooch Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
1...	65	46	65	43	75	50	...	...	75	52	54	52	74	53	75	45	56	41	68	51	76	48	66	50	66	52	54	46	64	52	44									
2...	67	45	68	42	80	35	...	...	81	48	62	50	78	50	73	47	66	39	75	52	74	50	62	48	64	56	44	64	52	44										
3...	73	60	68	51	74	42	...	...	79	54	57	50	83	43	83	47	60	40	63	51	79	57	63	51	55	48	64	52	44											
4...	69	58	65	40	76	41	...	...	82	50	60	52	77	51	89	45	56	45	56	52	83	47	73	49	68	50	55	46												
5...	64	47	66	49	72	50	...	...	75	55	56	51	77	50	87	46	57	47	56	50	76	47	69	53	60	56	56	49												
6...	61	45	64	50	53	32	...	...	71	51	58	51	68	42	83	45	59	43	61	52	77	51	62	46	61	57	47	64												
7...	70	51	78	43	70	36	...	...	64	50	69	50	67	47	65	48	63	49	60	76	54	62	46	68	56	47	67													
8...	64	43	70	52	71	35	...	...	69	50	60	51	71	53	71	50	56	43	67	55	73	52	69	49	68	54	62	48												
9...	66	41	64	40	71	33	...	...	69	43	59	51	75	40	73	37	58	39	65	47	77	51	67	41	67	53	48													
10...	67	39	64	37	68	35	...	...	72	51	52	49	78	50	81	50	51	42	71	50	79	52	80	54	69	45	74													
11...	65	38</td																																						

TABLE 3.—*Maximum and minimum temperatures at selected stations for September, 1910. District No. 12—Continued.*

Date.	Walla Walla, Wash.		Oregon.																						
			Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.				
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1.	72	54	78	45			74	42	64	51	77	57	65	44	73	50	75	30	76	46	80	48	76	40	
2.	77	46	85	49			82	45	72	44	79	44	72	46	82	56	84	47	81	49	80	37			
3.	82	56	82	53			79	49	70	43	86	41	66	46	72	54	80	32	82	48	80	47	87	39	
4.	75	53	79	42			72	45	66	41	79	52	66	42	73	53	74	29	75	47	77	54	75	35	
5.	78	54	85	47			71	40	66	50	80	47	63	47	64	50	73	30	76	42	76	50	88	31	
6.	65	49	71	46			66	50	62	51	76	52	66	39	60	49	64	33	68	45	67	56	80	50	
7.	72	46	72	41			71	38	61	38	74	37	66	39	73	45	72	25	71	38	72	43	76	45	
8.	71	46	73	41			72	43	63	38	75	50	87	43	74	53	74	27	75	39	73	49	84	33	
9.	77	48	78	47			71	44	64	39	79	38	66	40	69	51	71	31	72	44	77	47	92	39	
10.	67	50	76	45			71	42	62	48	75	51	66	42	63	50	73	30	68	42	69	50	86	55	
11.	70	46	67	37			68	39	60	44	71	37	64	38	60	48	66	23	66	40	72	45	71	35	
12.	76	44	71	45			62	40	60	44	77	38	67	46	75	52	68	29	70	47	76	54	80	31	
13.	76	57	64	47			76	50	61	45	78	58	67	47	63	52	63	44	64	48	75	54	84	45	
14.	77	52	72	39			71	46	62	40	81	41	67	44	74	46	75	29	76	49	80	43	77	42	
15.	73	55	77	45			73	44	59	41	77	47	57	47	76	50	73		78	41	78	46	74	59	
16.	73	52	70	48			76	52	64	47	74	50	67	49	57	52	66		64	49	68	52	75	56	
17.	64	49	64	45			68	50	66	42	62	43	67	45	61	51	65		64	50	69	42	68	49	
18.	73	48	61	48			62	50	65	43	72	41	69	45	73	50	75		66	50	78	45	81	49	
19.	80	54	68	46			67	50	70	53	84	46	79	48	80	50	78		81	54	86	46	87	60	
20.	82	63	71	45			76	53	58	51	79	57	59	52	65	56	72		63	51	77	64	82	52	
21.	66	57	74	48			72	55	59	51	79	57	60	52	65	56	57		75	51	73	59	82	52	
22.	78	53	80	49			74	51	62	42	78	46	70	53	75	53	77		77	50	79	49	79	42	
23.	80	55	84	51			71	55	64	42	84	47	61	51	68	53	81		73	49	79	50	84	41	
24.	71	49	74	49			70	57	64	51	79	47	63	45	63	49	78		68	44	73	54	83	44	
25.	66	38	78	51			68	48	72	37	77	32	66	39	74	47	70		74	41	70	39	75	39	
26.	75	45	78	46			69	39	60	41	79	42	65	42	71	47	77		77	41	76	39	74	37	
27.	77	52	78	46			73	43	56	41	79	52	68	45	71	51	81		79	42	76	45	79	31	
28.	75	58	76	52			74	42	63	39	73	49	68	47	63	52	74		75	49	72	59	85	40	
29.	68	52	80	49			72	48	67	33	75	49	72	45	65	51	78		78	46	69	48	81	38	
30.	80	54	81	47			75	45	63	45	74	49	64	50	73	53	83		82	46	78	45	83	41	
31.	Means.....		73.7	51.2	74.9	46.3		71.5	46.5	63.5	44.1	77.1	46.8	66.1	45.3	69.2	50.9	73.0*		73.3	45.9	75.2	48.9	80.3	42.9